



Derbyshire Derwent

Abstraction Licensing Strategy

A strategy to manage water resources sustainably

January 2020

LIT 2458

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1. About the licensing strategy

This strategy sets out our approach to managing new and existing water [abstraction](#) and [impoundment](#) licensing within the Derbyshire Derwent [catchment](#) in the Humber river basin district. It provides information about where water is available for further abstraction and how reliable a new abstraction licence may be. The following sub-sections provide further information about our licensing approach as well as an introduction to the Derbyshire Derwent Abstraction Licensing Strategy ([ALS](#)) area.

We apply this approach to the [water body](#) in which the abstraction is located. Water bodies are sub-catchment surface water units or groundwater units on which we carry out assessments and map results. It also applies to all downstream [surface water](#) bodies that may be affected by any reduction in abstraction-related flow, or adjacent [groundwater](#) bodies affected by any reduction in groundwater level.

Please see [Managing Water Abstraction](#) for the technical explanation, legal and policy requirements behind [ALS](#).

Please see [abstraction pages on gov.uk](#) for advice on who needs an abstraction or impoundment licence, and how to apply.

1.1. Water abstraction licensing principles and process

Our licensing approach ensures that River Basin Management Plan (RBMP) objectives for water resources activities are met and we avoid deterioration within this catchment in line with the Water Framework Directive (WFD). The WFD seeks environmental objectives of protecting and enhancing the water environment and ensuring the sustainable use of water resources for economic and social development. The ALS sets out how we will manage the water resources of a catchment and contribute to implementing the WFD.

The document [Managing Water Abstraction](#) outlines the over-arching principles that we follow in managing our water resources. How we apply these principles in the Derbyshire Derwent ALS area is outlined in this document. If you want to abstract water it outlines where water is available for further abstraction and the principles we follow in assessing your application for a licence.

Abstraction licence application process

Anyone wanting to take more than 20 m³/day (4,400 gallons/day) water from a source of supply (i.e. river, stream, lake, well, groundwater, etc.) must have an abstraction licence. In dealing with abstraction applications we may require the application to be advertised and may require supporting environmental information. When considering the application we check that the quantities applied for and the purpose of the abstraction are reasonable, that there is sufficient water available to support it and that the potential impacts on the environment and other water users are acceptable. Depending on the outcome of our investigations we will issue a licence either as applied for, or with conditions that restrict the abstraction to protect the environment or rights of other users. In certain cases we may have to refuse the application. Any applicant who is not happy with our decision has the right to appeal against it.

Applying for impoundment

Applications for impoundments will be dealt with on a case-by-case basis. An impoundment is a dam, weir or other constructions in an inland waterway that obstructs or impedes flow and/or raises water levels.

Applying for hydropower

Water abstraction for hydropower schemes is non-consumptive, with almost all water used returned to the watercourse. Maximum abstraction volumes are determined in line with the Environment Agency's Hydropower Good Practice Guidelines and based on the assessment of environmental risk for each scheme (please see this [website](#) for further information in regard to applying for abstraction for hydropower).

1.2. Abstraction considerations

Each application is determined on its own merits

Whilst this document may say that water is available for further abstraction, this does not guarantee that every application will be successful. We will determine each application upon its own merits and any local impacts.

Water resources reliability

It is important to understand that when we issue a licence we do not guarantee the supply of water at all times. We have to protect the environment and rights of other abstractors. To do this we may add constraints to licences. Licence holders need to understand the implications of this as it affects the reliability of supply. For example, in drier years it is more likely that conditions will come into effect and abstraction is more likely to be stopped.

Abstractions are managed to protect the environment

We assess the impacts of new applications for water to make sure that complying with the WFD the resultant river flows will maintain a good ecology or if the ecology is not good, will not deteriorate the ecology of our rivers further. If the water body is of high hydrological regime, we need to make sure that the river flows will maintain the near pristine condition of the water body.

We will also take action if necessary to limit the increase in current abstraction and when we think this will lead to deterioration of the ecology or the near pristine condition of our high hydrological regime water bodies. This is to ensure compliance with the WFD.

1.3. Abstraction restrictions

When issuing a licence we have to protect the environment and rights of other abstractors. To do this we may add conditions to licences. These could be limitation on the time of year when abstraction can take place and the period of time a licence is valid, as explained below.

Hands off flow (HoF) and hands off level (HoL) conditions

To protect the environment and the right of other abstractors we may issue a licence with a condition referred to as '[hands off flow](#)' (HoF) or in case of groundwater '[hands off level](#)' (HoL). These specify that if the flow in the river or groundwater level drops below that which is required to protect the environment, abstraction must stop. As a result, when we grant a licence, it does not mean that we guarantee a supply of water. Therefore, in dry years, restrictions are likely to apply more often, which will affect the reliability of supply.

Whilst this document may say that water is available for abstraction, this does not guarantee that all applications will be successful. This is because we have to determine each application on its own merits, and local factors may mean we are either unable to grant a licence as applied for, or even at all.

See section 3.1 for details relating to licence restrictions within the Derbyshire Derwent catchment.

Time limited licences

In recognition of changing pressures on water resources all new licences and variations (other than downward variations or minor variations having no environmental impact) will have a time limit imposed. This allows for the periodic review and changes to abstraction licences where circumstances have changed since the licence was granted.

All new licences within an ALS area have a common end date ([CED](#)) so they can be reviewed at the same time. The normal duration of a licence is usually 12 years. When an application is made within six years of the CED, we will generally apply the subsequent CED to any licence granted. This is to avoid issuing shorter and shorter duration licences as the CED approaches. However, where we are uncertain about the long term impacts of an abstraction we will grant a short term licence during which time potential impacts are monitored. We have the discretion to apply short or long time limits to a licence and this will be done on a case by case basis, following discussion between the applicant and ourselves. Additional information about the replacement of time limited licences is available in [Managing Water Abstraction](#).

See section 2.5 for such conditions in the Derbyshire Derwent ALS area.

This strategy was updated in January 2020 and it supersedes the strategy issued in February 2013.

1.4. An overview of the Derbyshire Derwent catchment

The Derbyshire Derwent catchment is a major tributary of the River Trent. The catchment of the River Derwent covers an area of 1197 km², covering much of the county of Derbyshire. Located in the lower reaches of the watercourse, the principle urban area within the catchment is the City of Derby, which has a population of around 250,000 (source: Office for National Statistics, 2011 Census). Other significant towns include Castleton, Buxton, Bakewell, Matlock, Wirksworth, Alfreton and Belper (Map1).

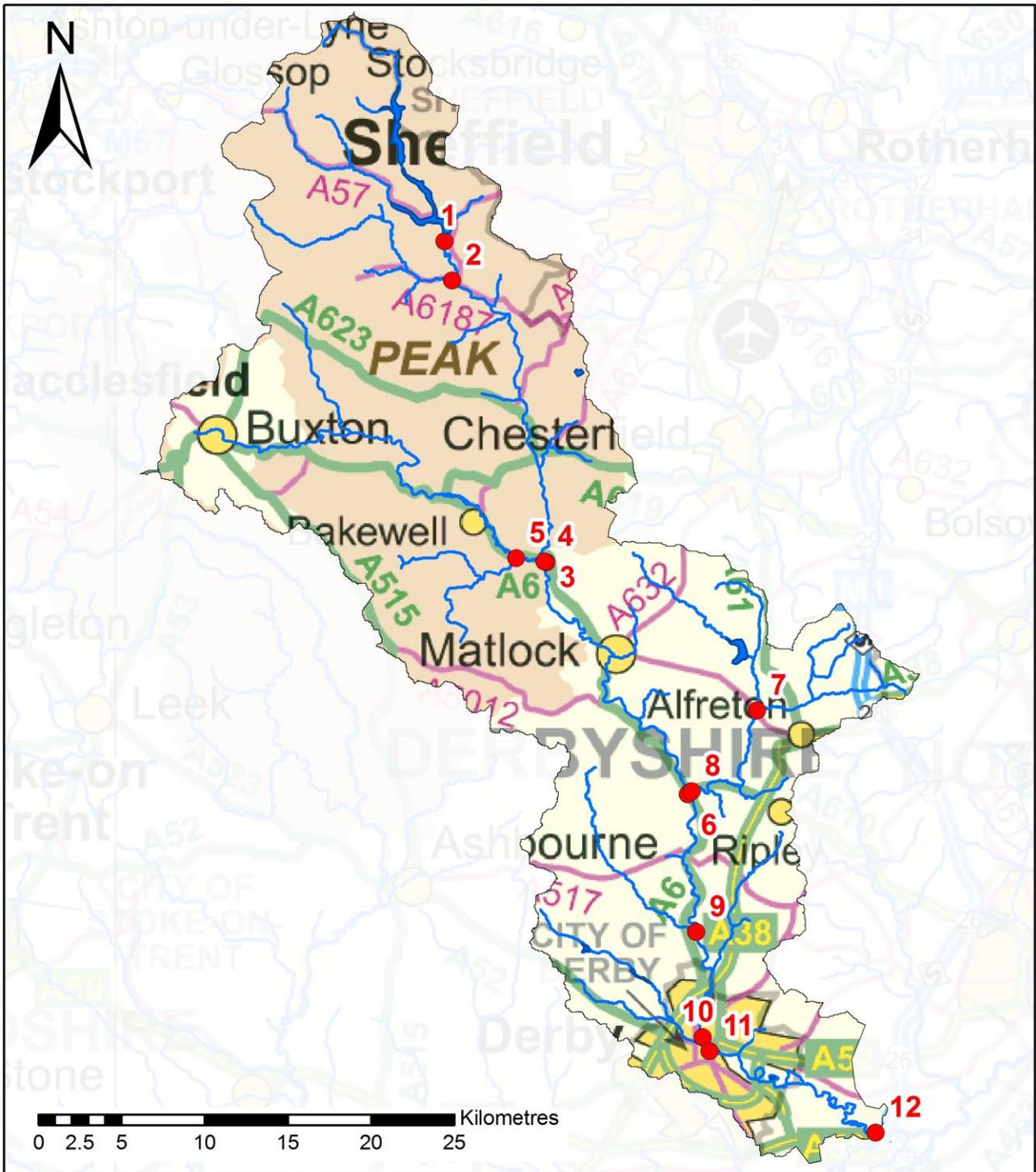
Sources of water across the Derbyshire Derwent catchment

Rising on Howden Moor, the River Derwent is impounded by three public water supply reservoirs (Howden, Derwent and Ladybower). The river then flows in a southward direction until it reaches Derby, where the course turns to the south east towards the

confluence with the River Trent located near Shardlow. There are a number of important tributaries to the Derwent, the largest including the Rivers Ashop, Noe, Wye, Amber (impounded by Ogston reservoir), Ecclesbourne and the Markeaton Brook. Both the Upper Derwent Reservoirs and Ogston Reservoir have statutory requirements to release compensation flows respectfully to the River Derwent and River Amber ensuring the maintenance of flow downstream of the dams.

There are sources of groundwater (aquifers) across the Derbyshire Derwent catchment as well. The Environment Agency classifies aquifers as principal, secondary and unproductive strata. Secondary and non-aquifers hold less significant water resources. The Derwent catchment is underlain by principal aquifers with outcrops of Carboniferous Limestone in the north-west and Sherwood Sandstone in the south west of the catchment. The limestone in particular is a key resource within the catchment. There are also secondary aquifers and unproductive strata within the catchment. These include The Millstone Grit series outcrops in the north and east of the catchment and alluvial sands and gravels (known as Superficial Deposits) in the southern reaches of the Derwent valley. There are extensive outcrops of Coal Measures in the Amber valley whilst the southern part of the catchment around Derby is dominated by younger Mercia Mudstone clays.

The Derbyshire Derwent is an important source of water to the people and the diverse landscape within that. The Upper Derwent and Ogston reservoirs together with the River Derwent provide a high, strategically important, long-standing public water supply for the East Midlands and South Yorkshire. The River Derwent itself is heavily regulated and is subject to compensation flow requirements as a consequence of the reservoirs. This artificially elevates low flows in the river, whilst providing some flood alleviation during high rainfall events. There is little groundwater abstraction for public water supply in the catchment. However, the principal aquifer of the Carboniferous Limestone has been heavily exploited, particularly around the Buxton area. A significant pressure stems from bygone mining activity that built soughs (underground drainage channels). These artificially drain the Carboniferous Limestone to the detriment of the watercourses flowing over them exacerbating low flows.



Legend

- Assessment Points
- Rivers
- Lakes
- Derbyshire Derwent ALS area

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Map 1. The catchment of the River Derwent including the network of major rivers and the location of major cities across it.

2. Water resource availability of the Derbyshire Derwent ALS area

2.1. Resource assessment

Resource assessment is at the heart of abstraction management. To manage water effectively we need to understand how much and where it is available, and how much the environment and existing abstractors need. We have a monitoring network to measure river flows and groundwater levels. We use these data along with our knowledge of human influences and environmental needs to establish a baseline of water availability for each water body that builds into a picture for the catchment. The main components of this assessment that help us to understand the availability of water resources are:

- The Environmental Flow Indicator (EFI); a resource allocation for the environment defined as a proportion of natural flow
- The Fully Licensed (FL) scenario; the situation if all abstraction licences were being used to full capacity
- The Recent Actual (RA) scenario; the amount of water which has actually been abstracted on average over the previous six years.

River flows change naturally throughout the year and we need to protect flow variability in our rivers from low to high flow conditions. We use flow statistics to help to do this. Flow statistics are expressed as the percentage of time that flow is exceeded. Resource availability is calculated at four different flows, Q95 (low flow, the flow of a river which is exceeded on average for 95% of the time), Q70, Q50 and Q30 (higher flow). This information gives a more realistic picture of what the current resource availability is within a given water body.

2.1.1. Water resource availability colours and implications for licensing

In order to communicate water resources availability across catchments, we usually use a colour coding system. Table 1 defines the colour codes used for presenting resource availability (of surface water) with the licensing implication associated to each colour. However, not all of them necessarily apply to any individual catchment.

Table 1. Surface water resource availability colours and associated implications for abstraction licensing.

Surface water resource availability colour	Implication for abstraction licensing
High hydrological regime	There is more water than required to meet the needs of the environment. However, due to the need to maintain the near pristine nature of the water body, further abstraction is severely restricted.
Water available for licensing	<p>There is more water than required to meet the needs of the environment.</p> <p>New licences can be considered depending on local and downstream impacts.</p>
Restricted water available for licensing	<p>Full Licensed flows fall below the Environmental Flow Indicators (EFIs).</p> <p>If all licensed water is abstracted there will not be enough water left for the needs of the environment. No new consumptive licences would be granted. It is likely we will be taking action to reduce full licensed risks. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.</p>
Water not available for licensing	<p>Recent actual flows are below the EFI.</p> <p>This scenario highlights water bodies where flows are below the indicative flow requirement to help support a healthy ecology in our rivers. We call this 'Good Ecological Status' (GES) or 'Good Ecological Potential' (GEP) where a water body is heavily modified for reasons other than water resources.</p> <p>Note: we are currently taking action in water bodies that are not supporting GES or GEP. We will not grant further licences. Water may be available if you can buy (known as licence trading) the amount equivalent to recently abstracted from an existing licence holder.</p>
Heavily Modified Water Bodies (HMWBs) (and/or discharge rich water bodies)	<p>These water bodies have a modified flow that is influenced by reservoir compensation releases or they have flows that are augmented. These are often known as 'regulated rivers'. They may be managed through an operating agreement, often held by a water company. The availability of water is dependent on these operating agreements. More detail if applicable can be found in section 3.1 Surface Water.</p> <p>There may be water available for abstraction in discharge rich catchments, you need to contact the Environment Agency to find out more.</p>

2.1.2. Groundwater resource availability colours and implications for licensing

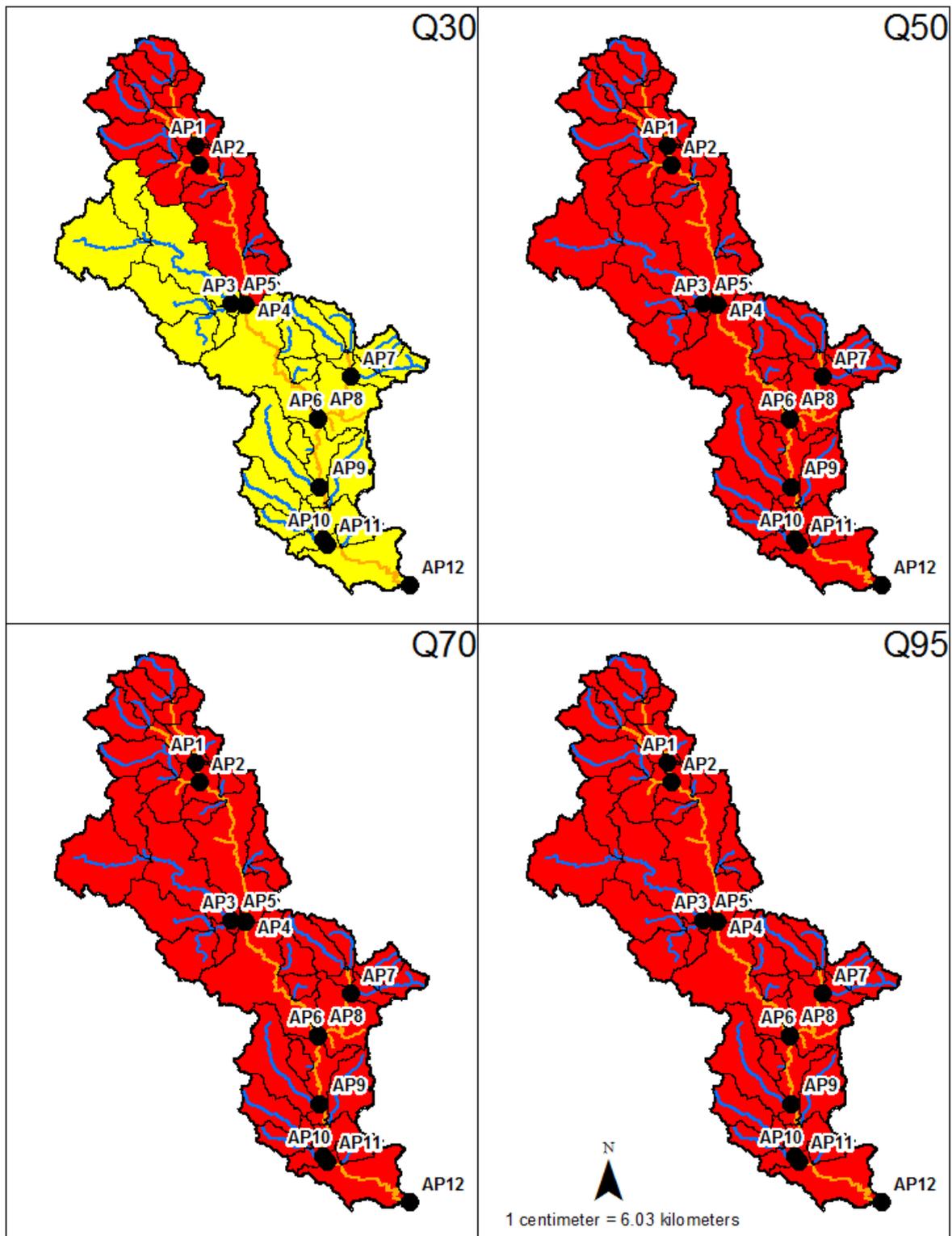
For groundwater availability there are only three colour codes. Table 2 presents these colours with the licensing implication associated to each colour.

Table 2. Groundwater resource availability colours and associated implications for abstraction licensing.

GWMU resource availability colour	Implication for abstraction licensing
Water available for licensing	Groundwater unit balance shows groundwater available for licensing. New licences can be considered depending on impacts on other abstractors and providing there will be no significant impact on surface water flows, dependent wetlands, groundwater levels or cause of saline intrusions.
Restricted water available for licensing	<p>Groundwater unit balance shows more water is licensed than the amount available, but that recent actual abstractions are lower than the amount available OR that there are known local impacts likely to occur on dependent wetlands, groundwater levels or cause saline intrusions but with management options in place.</p> <p>In restricted groundwater units no new consumptive licences will be granted. It may also be appropriate to investigate the possibilities for reducing fully licensed risks. Water may be available if you can 'buy' (known as licence trading) the entitlement to abstract water from an existing licence holder.</p> <p>In other units there may be restrictions in some areas e.g. in relation to saline intrusion.</p>
Water not available for licensing	<p>Groundwater unit balance shows more water has been abstracted based on recent amounts than the amount available.</p> <p>We will not grant further consumptive licences. It will be appropriate to take action to reduce fully licensed risks. Water may be available if you can 'buy' the entitlement to abstract water from an existing licence holder (known as licence trading).</p>

2.2. Resource availability

The water resource availability, calculated at four different flows, Q95 (low flow), Q70, Q50, and Q30 (higher flow) for this ALS is presented in Map 2 with the definition of availability colours and associated licensing implication explained in Section 2.1. For further licensing information about surface water, please refer to Section 3.1.



Legend

- Assessment Points
- ▭ Derbyshire Derwent Waterbodies
- Derbyshire Derwent Rivers
- Heavily Modified and Artificial Rivers
- ▭ Heavily Modified and Artificial Lakes

Water Availability

- ▭ Restricted water available
- ▭ Water available
- ▭ Water not available

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Map 2. Water resource availability colours at different flow rate for Derbyshire Derwent ALS area.

2.3. Groundwater resource availability

Groundwater availability is guided by the surface water resource availability unless we have better information on principal aquifers or we are aware of local issues we need to protect. Map 2 shows the water resource availability colours for surface water in the Derbyshire Derwent ALS area.

Under the WFD, aquifers are designated as named groundwater bodies (GWB). We may divide GWBs into groundwater management units (GWMUs). In the case of principal aquifers we use the information and assessments on these units to determine water availability and licence restrictions. In certain areas, resource concerns over groundwater mean that the standard water resource availability colours have been overridden.

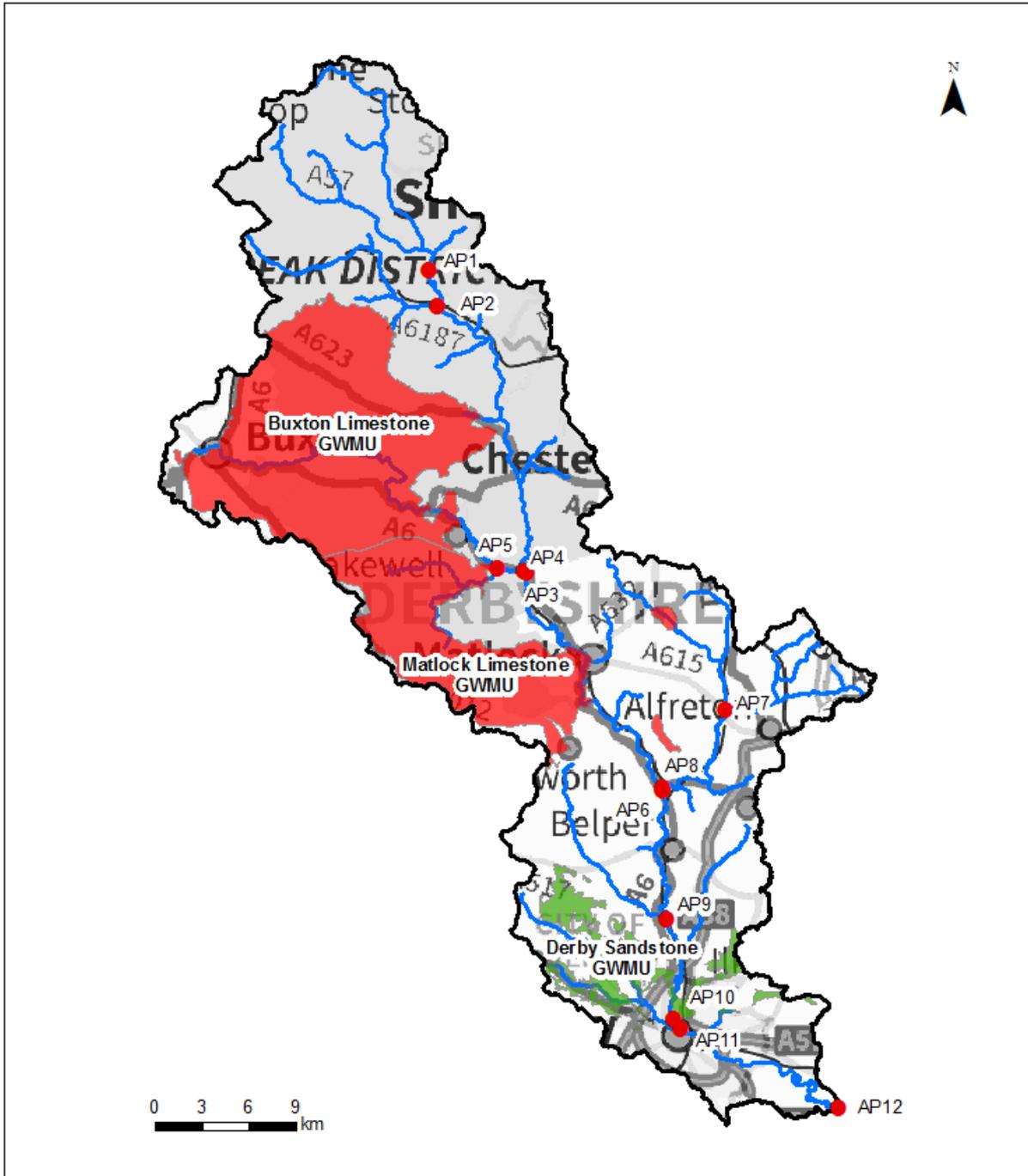
Within the Derbyshire Derwent catchment, groundwater has been assessed using both GWBs and GWMUs to represent the water resource status for groundwater. The Derbyshire Derwent - Carboniferous Limestone groundwater body is split in to two GWMUs: the Buxton GWMU and the Matlock GWMU. It is a principal aquifer which outcrops in the west of the catchment underlying both the Buxton and Lathkill catchments. The Derbyshire Derwent - Permo Triassic Sandstone groundwater body is also managed as the Derby Sandstone GWMU. This is a small outcrop of Sherwood Sandstone around Derby.

Section 2.1.2 explains the groundwater resource availability colours, and Map 3 shows these colours for GWMUs in the Derbyshire Derwent ALS area. For further licensing information about each GWMU, please refer to section 3.2.

2.4. Resource reliability

If you want to apply for a licence, it is worth considering the reliability of your abstraction. By assessing the quantity of water available at different flows it is possible to see when there is a surplus or deficit of water and the associated reliability of an abstraction. This is an indication only; actual reliability of a licence will be discussed when you apply.

Map 4 gives an indication of the resource availability for [consumptive abstraction](#) in Derbyshire Derwent ALS area expressed as a percentage of time.

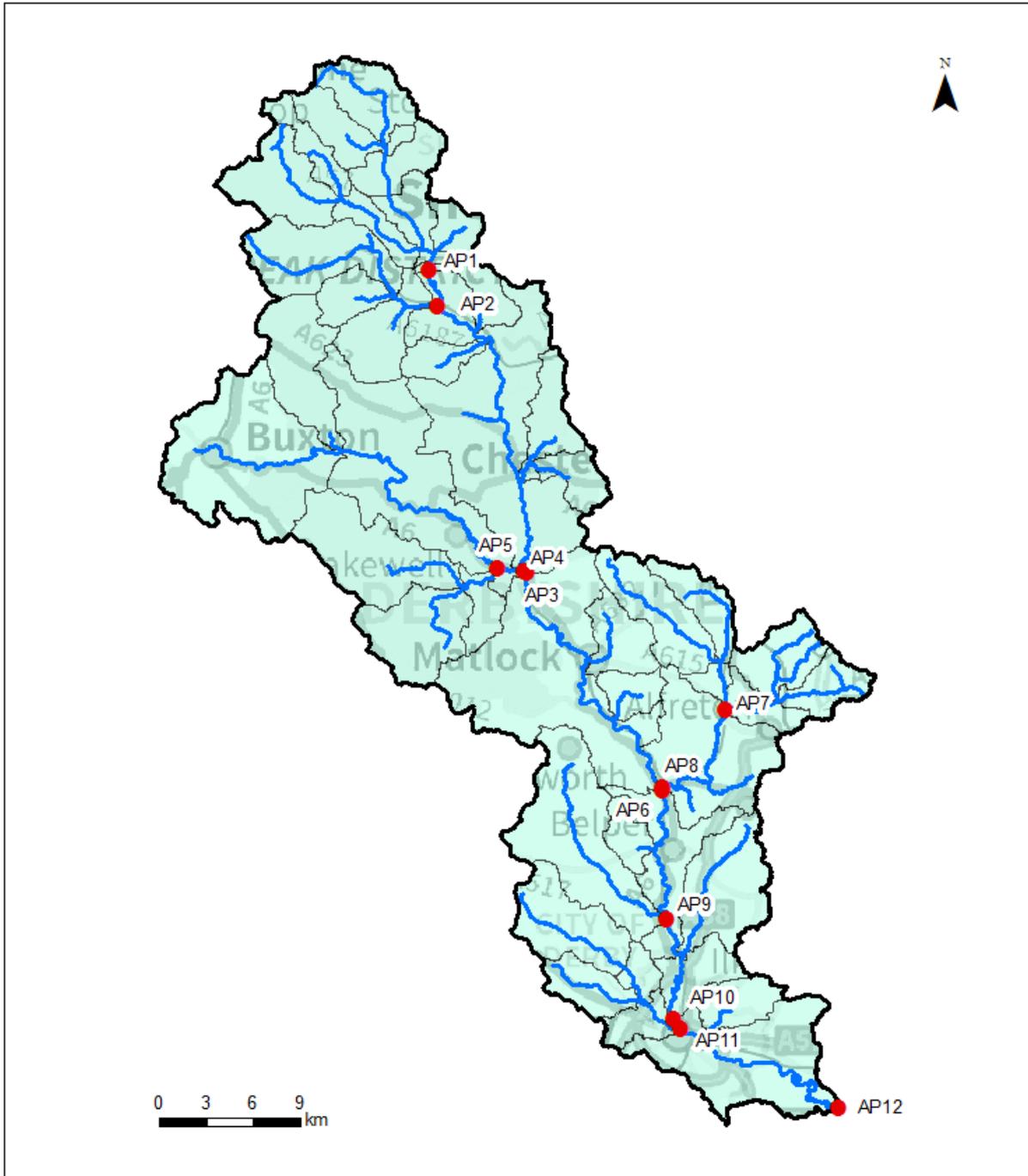


Legend

- Assessment Points
- Rivers
- GWMU Licensing Strategy
 - Water available
 - Water not available

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Map 3. Groundwater resource availability colours for Derbyshire Derwent ALS area.



Legend

- Assessment Points
 - Primary river
- Resource Reliability (% of the time)
- Less than 30%
 - At least 30%
 - At least 50%
 - At least 70%
 - At least 95%

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Map 4. Water resource reliability of the Derbyshire Derwent ALS area expressed as percentage of time available.

2.5. Other considerations for availability and reliability

As explained in the Introduction section, we may have to add constraints to licences such as '[hands off flow](#)' (HoF) conditions to protect the environment and the rights of other abstractors. HoF values applicable to watercourses across the Derbyshire Derwent catchment are stated in Table 3.

In addition, new licences within an ALS are usually given a Common End Date ([CED](#)), which allows them to be reviewed at the same time. The next CED for this ALS is 31st March 2030.

2.6. Impoundments

Applications for impoundments will be dealt with on a case by case basis. More information may be found on our [water management web pages on gov.uk](#).

3. How we manage abstraction in the Derbyshire Derwent ALS area

3.1. Assessment points (surface water)

We assess surface water flows at [Assessment points](#) (APs), which are significant points on a river, often where two major rivers join or at a gauging station. APs cover multiple surface water bodies. Where groundwater abstractions directly impact on surface water flows, the impact is measured at the surface water AP.

For the Derbyshire Derwent Table 3 gives an indication of how much water is available for further abstraction and the associated restrictions we may have to apply to new and varied [abstraction licences](#) from the main river. Tributaries to the main river may be subject to different restrictions and quantities and will be assessed locally on a case by case basis.

Each HoF is linked to an AP and is dependent on the resource availability at that AP. In some cases additional restrictions may apply to licences where there is a more critical resource availability downstream to protect the ecological requirements of the river. This is detailed in Table 3 if applicable.

All abstraction licence applications are subject to an assessment to take account of any local and downstream issues and may be subject to further restrictions. In cases where there is water available at all flows we may apply a Minimum Residual Flow (MRF) restriction to protect very low flows. We will decide this on a case by case basis.

Reading from top to bottom in Table 3 are the APs in the Derbyshire Derwent ALS area. Reading across the columns you can see the potential HoF that may be applied to a licence, the number of days water may be available under this restriction and the approximate volume of water in [Ml/d](#) (Mega litres per day) that may be available.

Table 3 presents the approximate volume of water available in the Derbyshire Derwent catchment. For the sub-catchments that are not closed, water availability at their AP is subject to a HoF. That means for AP4 and AP6 to AP10 water availability is subject to the HoF at AP10 equalling 1902.0 Ml/d which equals water availability at Q19. At AP11 and AP12 water availability is subject to a HoF of 1980.8 Ml/d (availability at Q19) at AP12. As a result, in the Derbyshire Derwent catchment, 345.5 Ml/d (water availability at AP12) has

been assigned to the whole of the catchment (AP4 and AP6 to AP12). This, however, does not guarantee that this quantity is available at any one particular assessment point and schemes will be assessed on a case by case basis.

In addition, we may ask applicants to provide additional information about any likely environmental impact of the proposed abstraction. This will be assessed on a case by case basis.

We have also an obligation to protect all Habitats Directive sites and implement the needs of the Eels Regulations 2009, as amended in 2011. Conditions may be added to new licences and variations to ensure the protection of fish, other aquatic wildlife and protected sites.

Our strategy

In addition to the above considerations, below is our strategy referred to in Table 3 when processing new abstraction applications or renewing the existing licences depending on water availability status of each AP catchment and in which AP catchment the location of abstraction lies.

(1) This means for new licences the catchment is closed to any further consumptive abstraction from both surface water and groundwater.

(2) For existing licences, the renewal of licences will be considered subject to the following criteria and local considerations:

- environmental sustainability is not in question
- there is a continued justification of need for the water
- the water is used efficiently

We will also take into account any objections received to renewal of the licence. We will endeavour to give six years notice if a licence will not be renewed or is to be renewed on more restrictive terms that impact significantly on the use of that licence.

(3) Availability of water in the catchment upstream of this AP is overall subject to HoF at AP10 or AP12 whichever relevant and the following conditions:

- No new unconstrained abstraction will be granted
- Water may only be available during periods of medium to high flow subject to a HoF condition
- There is a time limit of 31st March 2030

Table 3. Summary of licensing approach for the APs of Derbyshire Derwent ALS area.

AP	Name	Water Resource Availability	HoF Restriction (MI/d) and critical AP	No. of days per annum abstraction may be available	Approx. volume available at restriction (MI/d)	Is there a gauging station at this AP?
1	Derwent Reservoirs	Closed to new abs. (1&2 above)	-	-	-	Yes
2	River Noe	Closed to new abs. (1&2 above)	-	-	-	No
3	Upper R. Derwent - Chatsworth	Closed to new abs. (1&2 above)	-	-	-	No
4	River Wye	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69	345.5	No
5	River Lathkill	Closed to new abs. (1&2 above)	-	-		No
6	Middle R. Derwent - Whatstandwell	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69		No
7	Upper R. Amber	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69		No
8	Lower R. Amber	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69		Yes
9	River Ecclesbourne	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69		No
10	Lower R. Derwent – Derby St Mary's	Conditional availability (2&3 above)	1902.0 (Q19) at AP10	On average 69		No
11	Markeaton Brook	Conditional availability (2&3 above)	1980.8 (Q19) at AP12	On average 69		No
12	Derby - Church Wilne	Conditional availability (2&3 above)	1980.8 (Q19) at AP12	On average 69		No

3.2. Managing Groundwater

As explained in Section 2.3, for principal aquifers we may divide the area into groundwater management units (GWMUs), which are sub-divisions of the groundwater bodies. In these cases we use the information and assessments on these units to determine water availability and licence restrictions.

Where groundwater abstractions directly impact on surface water flows, including reduction of base flow, the impact is measured at the surface water AP. In these cases, restrictions may be applied to licences, such as Hands off Level ([HoL](#)) or Hands off Flow ([HoF](#)) conditions. The HoL is a groundwater level below which an abstractor is required to reduce or stop abstraction. The HoF is applied when flows fall below a certain rate in a connected watercourse. Other restrictions may apply where availability is limited or to protect the environment, for example to prevent saline intrusion.

Licence restrictions on groundwater abstractions in the Derbyshire Derwent ALS area

As mentioned previously there are three GWMUs within the boundary of the Derbyshire Derwent catchment. Table 4 details water availability status for these GWMUs and the restrictions that might be applied to abstractions likely to impact on groundwater dependent environments.

Table 4. Licence restrictions on groundwater abstractions in the Derbyshire Derwent ALS

Groundwater Body	GWMU	Water Resource Status	Approx. water available (MI/d)	Licence Restriction
Derwent Carboniferous Limestone (Principal)	Buxton	No Water Available for licensing	None	Closed to protect baseflows, see Table 5 for trading options.
	Matlock	No Water Available for licensing	None	Closed to protect baseflows, see Table 5 for trading options.
Derwent PT Sandstone - Derby (Principal)	Derby	Water Available for licensing	1 MI/d	A HoF of 1,980.8 MI/d will be applied to applications found to be in direct continuity with the river.
Derwent Secondary Combined (Millstone Grit)		No Water Available for licensing	None	Closed to protect baseflows, see Table 5 for trading options.
Superficial Deposits		Water Available for licensing		Further abstraction from superficial deposits are available in the catchments that have water available (AP4 & 6-12). A HoF of 1,980.8 MI/d will be applied to applications found to be in direct continuity with the river.

3.3. Artificial and Heavily modified water bodies (HMWBs)

Artificial water bodies describe water bodies that are entirely man-made for example canals. They also include lakes where no significant water body existed previously (gravel pits) or impounded rivers or lakes with an artificial catchment (reservoirs). A heavily modified water body is an existing body of water that has had its original appearance significantly changed to suit a specific purpose. For example, a river water body that has undergone extensive re-alignment for navigation, or a flood defended coastline.

Artificial water bodies and HMWBs are considered together and in the same way. These water bodies can be classified for many reasons, but for water resources purposes they are classified if they may contain a lake and/or reservoir that influence the downstream flow regime of the river. The downstream 'flow modified' water bodies are also classified as heavily modified. They are designated for water resource purposes if the flow regime has been altered by flow regulation/augmentation. The availability of water in water resource designated HMWBs will depend on the compensation release and/or operating agreements that impact on these water bodies.

Within the Derbyshire Derwent ALS catchment, there are a number of watercourses that are designated HMWB for water resources reasons. These include:

- the River Derwent from its source until the Bottle Brook confluence
- parts of the River Ashop
- parts of the River Noe, and
- parts of the River Amber

These rivers are influenced by the reservoirs that are located within them. Howden, Derwent and Ladybower reservoirs all impound the River Derwent and Ogston reservoir impounds the River Amber. All four reservoirs provide storage for drinking water and are designated HMWBs. As they are impoundments, they obstruct the watercourses and thus alter the flow regime downstream. This affects the water availability within these catchments. Please refer to section 3.1 above for further details.

Other waterbodies designated HMWB for reasons other than water resources include parts of the Bottle, Alfreton and Markeaton Brooks as well as parts of the River Amber. These are designated for reasons including flood protection, urbanisation and the wider environment.

3.4. Protected areas

UK law provides a very high level of protection to two types of designated sites due to their special environment. These are:

- Special Areas of Conservation ([SAC](#)), which contribute to biodiversity by maintaining and restoring habitats and species;
- Special Protection Area ([SPA](#)), which provides protection to birds and their nests, eggs and habitats

Ramsar sites and Sites of Special Scientific Interest ([SSSI](#)) also carry a high level of environmental importance.

Across Derbyshire Derwent ALS area there are twelve SSSIs, two SACs and one SPA of which the two latter are briefly introduced below with links to further information.

Peak District Dales SAC

Habitats that are a primary reason for selection of this site are the semi-natural dry grasslands and scrubland facies on calcareous substrates for which this is considered to be one of the best areas in the United Kingdom. Of the same importance are the Tilio-Acerion forests of slopes, screes and ravines.

Habitats (present as a qualifying feature, but not a primary reason) for selection of this site are European dry heaths, Calaminarian grasslands and Alkaline fens for which the area is considered to support a significant presence. And Calcareous and calcshist screes of the montane to alpine levels and Calcareous rocky slopes with chasmophytic vegetation for which the area is considered to support a significant presence which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.

Species that are a primary reason for selection of this site are White-clawed (or Atlantic stream) crayfish. The River Dove represents white-clawed crayfish in a high-quality, upland limestone river, in the north-east of the species' UK range. Species present, as a qualifying feature, but not a primary reason for site selection, are Brook lamprey and Bullhead for which the area is considered to support a significant presence of both.

For more information regarding the Peak District Dales SAC, please visit the [website](#).

South Pennine Moors SAC

Habitats that are a primary reason for selection of this site are European dry heaths, Blanket Bogs and Old sessile oak woods with Ilex and Blechnum in the British Isles for which this is considered to be one of the best areas in the United Kingdom.

Habitats (present as a qualifying feature, but not a primary reason) for selection of this site are Northern Atlantic wet heaths with Erica tetralix and Transition mires and quaking bogs for which the area is considered to support a significant presence. This site is only designated for habitats not species. For more information regarding the South Pennine Moors SAC, please visit the [website](#).

Peak District Moors (South Pennine Moors Phase 1) SPA

During the breeding season the area regularly supports Short Eared Owl, Merlin and European Golden Plover. The site is protected for its breeding migratory habitats. For more information, please visit the [website](#).

Map 5 presents the location of the above designated sites.



Legend

- Assesment Points
- Primary Rivers
- SACs
- RAMSAR
- SPAs
- SSSIs

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Map 5. Designated sites across the Derbyshire Derwent ALS area.

4. Managing existing licences

4.1. Water rights trading

We want to make it easier to trade water rights. A water rights trade is where a person sells all or part of their water right, as defined by their abstraction licence(s), to another person on a permanent or temporary basis. In the majority of cases a trade will involve a change in abstraction location and/or use which we will need to approve through the issue or variation of abstraction licences.

In licensing trades, as with new abstraction licences, we need to make sure that we do not cause any deterioration in water body status both within the water body / bodies where the trade will take place and to downstream water bodies.

Guide to the potential trading in water bodies of Derbyshire Derwent ALS

Table 5 provides a guide to the potential for trading in water bodies of Derbyshire Derwent ALS water resource availability colour, as shown on Map 2.

To find out more about licence trading please go to our [water management web pages on gov.uk](http://www.gov.uk)

Table 5. Licence trading information associated with water resource availability colours in Derbyshire Derwent ALS area.

ALS water resource availability colour	Our approach to trading
High hydrological regime	Opportunities for trading water rights will be limited
Water available for licensing	Allow trades of recent actual abstraction and licensed abstraction, but little demand for trading expected within water body as water available for new abstractions.
Restricted water available for licensing	There may be opportunities for licence holders to trade up to their full licensed quantities, but the quantities of water available to trade may be restricted once levels of actual abstraction reach sustainable limits. We will not permit licence trades in water bodies where we are taking action to prevent deterioration unless the trade is consistent with achieving water body objectives.
Water not available for licensing	We will only trade up to recent actual abstraction but no increase in recent actual abstraction is permitted in water body. Licensed abstraction will be recovered for the environment.
HMWBs	Opportunities for trading will depend on local operating agreements and local management.

4.2. Taking action on unsustainable abstraction

We need to take action on unsustainable abstraction causing diversion from the aims of the WFD i.e. a situation where flow does not support good ecological status, or potential if the water body is heavily modified. Action is also needed to manage the risk of deterioration or correct instances of serious damage. The actions that we may take include:

- Actions under the water industry national environment programme (WINEP)
- Revocations of licences for non-use
- Reductions of under-used and unused licences
- Changes to time-limited licences

4.2.1. Action being taken on unsustainable abstraction in the Derbyshire Derwent ALS

Within the Derbyshire Derwent ALS area currently there is only one Restoring Sustainable Abstraction (RSA) scheme ongoing to tackle unsustainable abstraction from surface water. This scheme is being implemented in Rivers Ashop and Noe catchment as explained below.

Restoring sustainable abstraction in Rivers Ashop and Noe catchment

The water resource availability colour is red which means this catchment is closed to further licensing. The rivers Ashop and Noe have been investigated under the RSA. The River Ashop and the River Noe, as well as its tributary the Jagers Clough, are important sources of water to the Derwent Valley reservoirs. The investigations were done because of outstanding uncertainties regarding the sufficiency of the current compensation flows downstream of Severn Trent Water's impoundments on these rivers, particularly with regard to providing a more natural flow regime.

The selected solution for the River Ashop is to revise (increase) the minimum compensation requirement from 5 MI/d to a mean monthly minimum of 8.5 MI/d, with a requirement that daily flow cannot drop below 5.5 MI/d (unless natural inflows fall below this level).

The selected solution for the River Noe is to reallocate the minimum required compensation between the River Noe and Jagers Clough. Initially this will be an increase in the River Noe to 12 MI/d (from 10 MI/d), and an equivalent reduction on Jagers Clough to 8 MI/d (from 10 MI/d). If no adverse impacts occur, a subsequent increase to 14 MI/d on Noe and decrease to 6MI/d on Jagers Clough will be considered.

4.2.2. Action being taken on unsustainable groundwater abstraction in the Derbyshire Derwent ALS area

If groundwater abstractions demonstrated to impact the environment, we seek to reduce or cease certain abstractions. This is aimed to prevent deterioration to groundwater aquifers and the surface waterbodies which are fed by these aquifers. There is no any ongoing project in this regards on the GWMUs in the Derbyshire Derwent ALS area.

4.3. Regulating currently exempt abstraction

As the abstraction licensing system in England and Wales developed over the past 50 years, certain abstractions have remained lawfully exempt from licensing control. This meant that unlimited supplies of water could be abstracted, even in areas that are water stressed, irrespective of availability and without regard to impacts on the environment or other abstractors.

Following two public consultations Government have introduced new Regulations to take effect from 1st January 2018. The Water Resources (Transitional Provisions) Regulations 2017 have removed the majority of previous exemptions from licensing control, and current exempt abstractors will now require a licence to lawfully abstract water (known as New Authorisations). This is to help balance the needs of all abstractors and the environment. This will enable more effective water management by ensuring that all significant activities influencing the availability of water and its impact on the environment are undertaken in a sustainable way.

The main activities that are impacted by the changes include:

- transferring water from one inland water system to another in the course of, or as the result of, operations carried out by a navigation, harbour or conservancy authority
- abstracting water into internal drainage districts
- dewatering mines, quarries and engineering works, except in an emergency
- warping (abstraction of water containing silt for deposit onto agricultural land so that the silt acts as a fertiliser)
- all forms of irrigation (other than spray irrigation, which is already licensable), and the use of land drainage systems in reverse (including transfers into managed wetland systems) to maintain field water levels
- abstracting within currently geographically exempt areas, including some rivers close to the borders of Scotland, and
- abstractions covered by Crown and visiting forces (other than Her Majesty the Queen and the Duchies of Cornwall and Lancaster in their private capacity).

Where we have details of these abstractions, we have included them in our assessments to consider how they impact on the catchment.

5. List of abbreviations

ALS

Abstraction Licensing Strategy.

AP

Assessment Point.

CED

Common End Date.

Defra

Department of Environment Fisheries and Rural Affairs.

EFI

Ecological Flow Indicator.

GEP

Good Ecological Potential.

GES

Good Ecological Status.

GW

Groundwater.

GWMU

Groundwater Management Unit.

HMWB

Heavily Modified Water Body.

HoF

Hands off Flow.

HoL

Hands off Level.

MI/d

Megalitres per day.

SAC

Special Areas of Conservation.

SPA

Special Protection Areas.

SSSI

Sites of Special Scientific Interest.

UKTAG

United Kingdom's Technical Advisory Group.

WB

Water body.

WFD

Water Framework Directive

6. Glossary

Abstraction

Removal of water from a source of supply (surface or groundwater).

Abstraction licence

The authorisation granted by the Environment Agency to allow the removal of water.

Assessment point

A significant point on a river, often where two major rivers join or at a gauging station.

Catchment

The area from which precipitation and groundwater will collect and contribute to the flow of a specific river.

Consumptive abstraction

Abstraction where a significant proportion of the water is not returned either directly or indirectly to the source of supply after use. For example for the use of spray irrigation.

Discharge

The release of substances (for example, water, treated sewage effluent) into surface waters.

Environmental flow indicator

Flow indicator to prevent environmental deterioration of rivers, set in line with new UK standards set by [UKTAG](#).

Groundwater

Water that is contained in underground rocks.

Hands off flow

A condition attached to an abstraction licence which states that if flow (in the river) falls below the level specified on the licence, the abstractor will be required to reduce or stop the abstraction.

Impoundment

A structure that obstructs or impedes the flow of inland water, such as a dam, weir or other constructed works.

Surface water

This is a general term used to describe all water features such as rivers, streams, springs, ponds and lakes.

Water body

Units of either surface water or groundwater which we use to assess water availability.

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